

Remarks

Claims 1-3, As Amended, Are Allowable

Claims 1-3 have been rejected under 35 U.S.C. §103(a) as being unpatentable over a combination of U.S. Patent No. 4,401,407 of Breckenridge and U.S. Patent No. 4,975,016 of Pellenc et al.

The Breckenridge patent discloses a grasping apparatus for a collection vehicle which includes a pair of arm members that are movable with respect to each other by actuating a hydraulic cylinder in order to grasp a container. The grasping apparatus is mounted on a telescoping arm that is mounted on the side of a collection vehicle.

The Pellenc patent discloses an automated fruit-picking machine which includes folding arm 2 to which is attached mechanical hand 20. The folding arm includes movable branch 3a (which includes link 5a) and movable branch 3b (which includes link 5b). Link 5b is pivotally mounted at one end to turret 10 and at the other end to connecting plate 4. Link 5a is pivotally mounted at one end to connecting plate 4. Jack 7 is pivotally attached to link 5b and to turret 10 and may be actuated to deploy or retract the folding arm.

The Office Action states that it would have been obvious at the time the invention was made to combine the teachings of Breckenridge and Pellenc in order to obtain Applicant's invention, as described in claims 1-3. A portion of the basis for this assertion is the interpretation of Applicant's claimed base link as being taught by Pellenc's turret 10, Applicant's claimed upper link as being taught by Pellenc's connecting plate 4, Applicant's claimed reach link as being taught by Pellenc's link 5b and Applicant's claimed lift arm as being taught by Pellenc's link 5a. According to the

Office Action, the Pellenc folding arm is moved through its operating cycle in such a way that the connecting plate and turret remain substantially parallel with each other. As so construed, the motion of the Pellenc folding arm through its "operating cycle" is accomplished solely by jack 7, although a second jack 16 is provided to rotate the turret and a third jack 25 is provided to rotate the mechanical hand. However, nothing in either the Breckenridge or the Pellenc patents, and no combination of these patents, discloses or renders obvious Applicant's arm assembly which includes a base link, an upper link, a reach link and a lift arm, which assembly is operable, by a fluid-operating actuating system comprising a plurality of hydraulic cylinders, through an operating cycle that includes retracted, extended, lifting and dumping positions, wherein the base link, upper link, reach link, lift arm and hydraulic cylinders are arranged and interconnected so that the upper link remains generally parallel to the base link throughout the operating cycle of the arm assembly, as described in Applicant's claims 1-3, as amended.

Applicant submits therefore, that his claims 1-3, as amended, are allowable over the cited references, and he respectfully requests that the §103(a) rejection of these claims be withdrawn and that claims 1-3, as amended, be allowed.

Claims 4-6, As Amended, Are Allowable

Claims 4-6 have been rejected under 35 U.S.C. §103(a) as being unpatentable over a combination of U.S. Patent No. 4,401,407 of Breckenridge, U.S. Patent No. 4,975,016 of Pellenc et al. and U.S. Patent No. 5,026,104 of Pickrell.

The Pickrell patent discloses a container handling mechanism 26 which includes linear reciprocating boom 27 and grip actuating assembly 32. The grip actuating assembly includes first and second shafts 33 and 34 which are parallel and rotatably journaled within beam 29. Segment gear 35 and mounting bracket 37 (which carries a gripping arm) are carried by shaft 33 for rotation therewith. Similarly, segment gear 38 and mounting bracket 39 (which also carries a gripping arm) are carried by shaft 34. Lever 40 is drivingly engaged, at one end, to shaft 33. Operating rod 42 of hydraulic cylinder assembly 43 is pivotally connected to the other end of lever 40. The grip actuating assembly is movable between retracted and extended positions by actuation of cylinder assembly 43.

The Office Action states that it would have been obvious at the time the invention was made to combine the teachings of Breckenridge, Pellenc and Pickrell in order to obtain Applicant's invention, as described in claims 4-6. A portion of the basis for this assertion is the interpretation of Applicant's claimed base link as being taught by Pellenc's turret 10, Applicant's claimed upper link as being taught by Pellenc's connecting plate 4, Applicant's claimed reach link as being taught by Pellenc's link 5b and Applicant's claimed lift arm as being taught by Pellenc's link 5a.

According to the Office Action, the Pellenc folding arm is moved through its operating cycle in such a way that the connecting plate and turret remain substantially parallel with each other. As so construed, the motion of the Pellenc folding arm through its "operating cycle" is accomplished solely by jack 7, although a second jack 16 is provided to rotate the turret and a third jack 25 is provided to rotate the mechanical hand. However, nothing in either the Breckenridge or the Pellenc patents, and no combination of these patents, discloses suggests or renders obvious Applicant's arm assembly which includes a base link, an upper link, a reach link and a lift arm, which assembly is operable, by a fluid-operating actuating system comprising a plurality of hydraulic cylinders,

through an operating cycle that includes retracted, extended, lifting and dumping positions, wherein the base link, upper link, reach link, lift arm and hydraulic cylinders are arranged and interconnected so that the upper link remains generally parallel to the base link throughout the operating cycle of the arm assembly, as described in Applicant's claims 4-6, as amended.

Applicant submits therefore, that his claims 4-6, as amended, are allowable over the cited references, and he respectfully requests that the §103(a) rejection of these claims be withdrawn and that claims 4-6, as amended, be allowed.

Applicant respectfully submits that all of his claims, as now presented, are patentable over the prior art references cited in the Office Action, including those made of record but not relied upon.

Applicant requests therefore that the rejections of his claims be withdrawn and that claims 1-6, as amended, be allowed, along with previously allowed claims 7-17.

Respectfully submitted,



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